Title:
Clinical Education for Nephrology Nurse Practitioner Candidates in Australia: A Consensus Statement

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ABSTRACT

Objectives: To develop recommendations for the clinical education required to prepare Australian Nurse Practitioner candidates for advanced and extended practice in nephrology settings.

Methods: Using the Delphi research technique a consensus statement was developed over a nine month period. All endorsed and candidate Nephrology Nurse Practitioners (NNP) were invited to participate as the expert panel. The Delphi research technique uses a systematic and iterative process. The expert panel were asked to generate a list of items which were then circulated to all NNPs. They were asked to determine their degree of agreement or disagreement with each statement using a 5-point Likert scale There was opportunity for free-text comments to be provided if desired. Results from each round were collated; the document was refined and circulated to the experts for a subsequent round. Consensus was demonstrated after three Delphi rounds.

Results: The consensus statement comprises four components explaining the role and membership of the mentorship team, the setting and location of NNP clinical education, learning strategies to support the NNP, and outcomes of NNP clinical education. Demographic questions in the final survey revealed information about the qualifications, years of experience, and practice location of Australian NNPs.

Conclusions: The consensus statement is not prescriptive but it will inform NNP candidates, university course providers and mentors about the expected extended nephrology specific clinical education that will enable the NNP to provide advanced nursing care for patients regardless of the stage of chronic kidney disease (CKD) and the practice setting.

Keywords: Nurse practitioner, renal, postgraduate, education

INTRODUCTION

The Nurse Practitioner is a newly emerging role in Australia beyond that of a registered nurse and advanced practice nurse (Gardner, Gardner, Middleton & Della, 2009). The role is specifically endorsed to practice with an extended scope of practice and authorised to order diagnostic tests, make patient referrals to other health professionals and to prescribe medications (Gardner, Chang & Duffield, 2007). It is essential that a registered nurse who is preparing for practice at this level be given adequate and appropriate support and opportunities for learning in the clinical setting.

The specialty of nephrology nursing encompasses a number of subspecialty areas such as general nephrology, haemodialysis, peritoneal dialysis and renal transplantation units. Nephrology nurses practice in primary, secondary and tertiary care settings and in the home (Tamplet Ulrich, 2006) in which the focus is on the provision of renal replacement therapy, teaching self-care, assisting individuals to make informed choices regarding the type and proposed location of therapy, and the prevention of related illnesses or complications associated with CKD (Bonner, 2007). Nephrology nurses (i.e. registered nurses) regardless of location use generic or core nephrology nursing knowledge and skills which is gained during either postgraduate certificate or diploma level nephrology nursing courses (Daly & Carnwell, 2003). Having acquired specialty postgraduate qualifications and experience, a registered nurse can be promoted to the Clinical Nurse Specialist and/or Clinical Nurse Consultant level (or equivalent in other Australian states).

The Nephrology Nurse Practitioner (NNP) is a newly emerging position in Australia that draws on the nurse's specialist background and is challenged during Master's

level education to deepen their knowledge and extend their clinical assessment skills so they can safely access the extended scope of practice required of a NP. For example, a NNP may evaluate a person's cardiovascular status, titrate antihypertensive agents, refer for ambulatory blood pressure monitoring, adjust dialysis prescription, and undertake health promotion education.

The Nurse Practitioner (NP) role in Australia has evolved from different origins to that in other countries (Driscoll, Worrell-Carter, O'Reilly & Stewart, 2005; Gardner et al., 2009). In the USA, where NPs are also known as advanced practice nurses, the role has been established for forty years with strong roots in primary health care provision, and it is possible to enter an NP program immediately on graduation from a Bachelor of Nursing (Hamric, Spross & Hanson, 2005). In 2005, the Australian Nursing and Midwifery Council (ANMC, 2005, p. 1) defined a nurse practitioner as a

> *Registered nurse educated and authorised to function autonomously and collaboratively in an advanced and extended clinical role. The nurse practitioner role includes assessment and management of clients using nursing knowledge and skills and may include but is not limited to the direct referral of patients to other health care professionals, prescribing medications and ordering diagnostic investigations.*

To support the acquisition of advanced and expanded clinical knowledge and skills, a NP is required to enrol in an accredited Masters program with entry requirements of a background of substantial clinical experience, a qualification in their speciality and active professional involvement (ANMC, 2009; Gardner, Dunn, Carryer & Gardner,

2006). From 1 July 2010 the ANMC is the body that accredits programs of study leading to registration and endorsement for the Nursing and Midwifery Board of Australia (NMBA).

In some Australian states provision was made for an alternative pathway to NP authorisation for experienced advanced practice nurses. Depending on the jurisdiction, this was known as “grandfathering” or Pathway 2 (NSW NMB 2007). This allowed nurses with experience and either a non-NP specific Masters qualification or no Masters degree to present for assessment against the ANMC competencies by a panel of experts. With the move to national registration, the NMBA has indicated that the alternative pathway to NP authorisation will cease following the transition period (ANMC, 2009).

The educational preparation required to develop registered nurses into Nurse Practitioners presents a variety of challenges (Furlong & Smith, 2005; Kessenich, 2000). The universities must offer courses that will enable the graduate to achieve the NMBA standards for endorsement as a NP (NMBA, 2010), while recognising that the students (NP candidates - also referred to as a transitional NP or student NP) will be expanding their practice in a specific clinical speciality. To support the diversity of clinical education needs of the various specialties universities rely on a Clinical Support Team involving nursing, medical and other health professionals as mentors (Gardner et al., 2006). A limitation of this approach is that it depends on a successful alignment of motivation and commitment between the NP candidate and their mentors. It also assumes a mutual understanding of the future NP role and the skills required to fulfil that role. As the NP role is relatively new most medical and nursing

clinical mentors are unfamiliar with the expectations of a NP (Gardner et al., 2007). Anecdotally clinical mentors often are not clear about the expectations and scope of practice of a NP – particularly outside of their own clinical setting. The clinical education component of a Master of Nurse Practitioner course is, therefore, challenging to all concerned.

There is also an expectation that members of the Clinical Support Team will be called upon to provide both direct and indirect supervision to the NNP candidate while they acquire new clinical skills and this will depend on the context of practice. According to the ANMC (2007) direct supervision is when a member of the Clinical Support Team is present and directly observes the clinical practice of the NP candidate. Indirect supervision is when the Clinical Support Team member does not directly observe their activities but there is reasonable access (e.g. telephone, email) between the NP candidate and the Clinical Support Team.

It is essential that the NP candidate is given adequate support and opportunity to obtain the skills required to perform in the newly emerging advanced and expanded role. This means that the NP candidate relies on a Clinical Support Team at some stage during the course. For a NNP candidate, the Clinical Support Team may include a nephrologist, another nurse (who may not be a nurse practitioner or may not be a nephrology nurse) and others who are often unfamiliar with what specifically needs to be taught and to what standard a NNP is expected to practice at. Current NNPs have widely expressed that this is problematic. The absence of clearly documented information about expected clinical learning outcomes to support the NNP candidate and the role of the Clinical Support Team could lead to an inconsistency of NNP

specific capabilities nationally. This in turn could result in NNPs experiencing difficulties in the future if changing jobs; being credentialed; or even, potentially, impacting on medico-legal defence.

Consensus Statement

A consensus statement (CS) is a written document that represents the collective opinions of a convened expert panel which is systematically developed (Fink, Kosecoff, Chassin & Brook, 1984); it has become an increasingly visible tool for solving problems in health and medicine, particularly when limited research evidence exists. There are several examples of CSs which influence nephrology health care such as the American Nephrology Nurses' Association Scope and Standards of Advanced Practice in Nephrology Nursing (2008); automatic reporting of eGFR (Mathews, 2005) and nonadherence to immunosuppressants in transplantation (Fine et al., 2009). Typically the opinions expressed in a CS are derived by a systematic approach, often using the Delphi research technique. It is important to avoid confusion between CS and Evidence Based Practice guidelines. The phrase "we suggest" can be used in a CS only if there is data from the literature to support a suggestion. The phrases "evidence based," "guideline," and "we recommend" are reserved for Evidence Based Practice guidelines and are not used in a CS. Finally the approach used to achieve consensus should also be described, and this is what follows.

METHODOLOGY

The aim of this project was to develop a national CS which describes the clinical education requirements of Australian NNP candidates. It used the Delphi technique

which is a research process that enables a systematic refinement of expert opinion with the aim of arriving at a combined or consensual position (Hasson, Keeney & McKenna, 2000; Powell, 2003). The conventional Delphi incorporates the administration of a series of surveys to a panel of experts typically over three rounds. As responses are examined quantitatively and/or qualitatively over successive rounds, the information being sought becomes more refined and detailed, centralising expert opinion until the maximum degree of consensus achievable has been reached (Bonner & Stewart, 2001; Halcomb & Hickman, 2010; Marshall, Currey, Aitken & Elliott, 2007).

From September 2009 to June 2010 three Delphi rounds were conducted. All endorsed and candidate NNPs from across Australia were invited to participate as the expert panel. At each successive Delphi round any new NNPs were invited to participate with the final round comprising 38 NNPs.

Round One

Prior to round one a national search identified 30 NNPs (authorised and candidates) in Australia. All thirty were invited to participate in a weekend workshop that was being convened in September 2009. The workshop was round one of the Delphi process. Fourteen participants who came from all jurisdictions of Australia with NNPs at that time attended. The workshop was facilitated by one of the authors (AB) and was conducted over two separate sessions. Session one used an iterative process of small group work activities to generate a list of the ‘ideal’ requirements for NNP clinical education programs. The list was refined during the workshop by clustering similar items together to develop a shorter list of the necessary components of a clinical

education program. During session two all participants (n=14, 100%) were asked to individually complete a survey to rate the importance and frequency of each item in relation to NNP specific practice (i.e. practice which includes but is beyond that of a registered nurse). Importance was scored between 0 and 10; with 0 not important and 10 the most important. Table 1 reveals that the scores for importance ranged from 5.79 to 9.79 with those scoring >9 as extremely important; those scoring between 8-8.99 as highly important; those scoring between 7-7.99 as quite important; those scoring between 6-6.99 as somewhat important; those scoring between 5-5.99 as moderately important.

[insert Table 1 here]

Participants were then asked to brainstorm a list of items reflecting the knowledge, skills and activities underpinning their clinical practice. They then ranked these items by frequency which was scored as daily (4), weekly (3), monthly (2), hardly ever (1) or not at all (0). Critical thinking was the most frequently used skill (daily), cultural safety was used weekly and multidisciplinary/mentor team meetings were monthly. Table 2 summarises the results for frequency of NNP activities.

[insert Table 2 here]

Round Two

The important and frequent items from round one were used to develop a survey (word document) for round two. The survey was sent via email to all 30 NNPs across Australia (December 2009) and consisted of three components: 1) Clinical mentors

and their roles; 2) Learning strategies to support clinical education; and 3) Learning outcomes of clinical education. In each component participants indicated on a five-point Likert scale their level of agreement with the item. In addition each section had a space for participants to provide qualitative comments. Two reminder emails were sent. A response rate of 70% (n=21) was achieved. Selected results are presented for round 2 as all items achieved either agreement or strong agreement (see round three for further detail). In addition, participants identified who they believed should be a member of the clinical support team; more than one member could be identified. As one would expect, a Nephrologist was most frequently identified as a required member of the Clinical Support Team for an NNP candidate (see Table 3).

[insert Table 3 here]

Content analysis of qualitative data occurred and some examples are provided in Box 1. These statements were selected as representative of the comments and concerns of the Expert Panel members.

[insert Box 1 here]

Round Three

Both the quantitative and qualitative analyses from round 2 were used to construct a draft CS. In May 2010 round three was distributed via email with a link to a secure SurveyMonkey™ website. The survey contained two components: 1) draft consensus statement and 2) demographic questions. The consensus statement used a five point Likert Scale and was further divided into: a) preamble and context of practice, b)

essential requirements, and c) preferable requirements. By the time of round three the population of NNPs had increased to 38; all NNPs were invited to contribute to this round. Reminder emails (with a link to the website) were sent on two occasions and this resulted in a final response rate of 86.8% (n=33). Round three results are presented below.

Demographic Profile

Thirty one NNP completed the demographic questions in round three. 42% (n=13) identified that they were currently employed as a NNP and 42% (n=13) were currently undertaking a Masters course. Surprisingly 15% (n=5) NNPs were endorsed but were not employed as a NP. Respondents had been employed as a nephrology nurse for 5-9 years (1/31), 10-14 years (3/31), 15-19 years (6/31) or >20 years (21/31). NP endorsement was on the basis of having a Master of Nurse Practitioner qualification (23/31) with a further 4/31 having a Master of Nursing qualification; 4/31 had been endorsed as a NP under an alternative ('grandfather') pathway which has been available in some States (see earlier). Of importance 96.8% respondents also held a postgraduate nephrology nursing qualification.

In this study respondents' primary area of work was either CKD (12/31), dialysis (16/31) [haemodialysis and/or peritoneal dialysis] or transplantation (3/31). They were currently employed in Queensland (15/31), New South Wales/Australian Capital Territory (7/31), Victoria (7/31), Western Australia (1/31) and Tasmania (1/31). There were no respondents from South Australia or the Northern Territory. Interestingly respondents were working in capital cities (15/31), other metropolitan/regional centres with populations >100,000 (12/31), large rural centres of 25,000-100,000 people

(1/31), small rural centres of 10,000-25,000 people (2/31), remote areas of 5,000-10,000 people (1/31) and very remote areas of <5,000 people (1/31).

Consensus Statement

Round three achieved 92% agreement with the preamble and context statement. (The 8% who suggested alternative wordings for the preamble proposed minor changes only.) The essential requirements achieved between 80-100% level of agreement for each of the items although having an academic staff member on the clinical support team and "mentors will schedule a minimum of 2 hours per week to the direct supervision of the NNP candidate's clinical practice" scored 63% and 70% level of agreement respectively.

A major goal of the CS was to identify the NNP-specific learning outcomes of clinical education. High levels of agreement with the learning outcomes were achieved in round 3 with the results ranging from 93.5 – 100% agreement. Table four summarises the results for the essential learning outcomes of clinical education for NNP candidates. The preferable requirements also scored high levels of agreement (>80%) for each item (see appendix 1).

[insert Table 4 here]

Round three also enabled the expert panel to meet at the NNP workshop (June 2010) to examine the results obtained from the SurveyMonkey and to make any final comments; only minor grammatical changes were made to the CS at this time. The final CS was then circulated via email to all NNPs (n=38), regardless of whether they

had attended the round three workshop, requesting final approval of the CS. Consistent with other CS (Fine et al, 2009; Mathew, 2005), all NNPs were invited to indicate if they wished to be identified as a member of the expert panel (see Table 5). Due to the overwhelmingly high level of agreement with the content of the CS achieved during round three, no further rounds were required. The final CS for the clinical education to prepare Australian nephrology nurse practitioners appears in appendix one.

DISCUSSION

The Delphi technique is a systematic way to develop consensus amongst a group of experts. In this project there was a high participation rate by Australian NNPs as the expert panel over each of the rounds. As the third round demonstrated very strong levels of agreement with the consensus statement, there was no need to undertake any further rounds. This experience is consistent with other Delphi projects involving nurses (Halcomb & Hickman, 2010; Marshall et al, 2007).

In keeping with how CSs are presented in the literature, what follows is a discussion of the advantages of benefits of having a CS about clinical education for NNP candidates in Australia.

The CS has been purposively designed to be broad and flexible so that NNP candidates, regardless of specific Masters course requirements, location or context of practice, can acquire the advanced and extended clinical skills required of all Australian NPs in a nephrology practice setting. The CS is consistent with the ANMC Nurse Practitioner Competency Standards (ANMC 2005), reflecting the generic

competencies required of all Australian NPs. In addition the CS reveals the nephrology specific NP clinical education outcomes.

The CS is neither overly prescriptive nor restricted to those areas identified in the statement; it should be seen as providing guidance for all NNP candidates, their Clinical Support Team and for university course providers. The CS will facilitate consistency between different candidates and between different courses; it will also facilitate the achievement of the ANMC Nurse Practitioner Competency Standards (ANMC 2005; Gardner, Carryer, Gardner & Dunn, 2005). Improved consistency will enable NNPs to be educated so that they can move jobs to other renal services. The CS will support NNPs and others to gain a wider perspective of nephrology nursing and not restrict this newly emerging role to the current context of an individual's practice. Importantly the CS demonstrates the specialty specific knowledge base held by and required of NNPs as well as the expert panel's professional commitment to systematically exploring the newly emerging role.

There are, however, limitations with the CS. First the expert panel involved NNPs from Australia so the results may not be generalisable to nephrology nursing worldwide. Nevertheless, the CS does reflect the important and frequent clinical education support that is needed by NNPs, and this may have relevance and applicability for nephrology nurses elsewhere. The second is that other experts such as university course providers, nurse practitioners from other specialty areas or nephrologists were not involved in the development of the CS.

CONCLUSION

The Delphi technique enabled NNPs to take a leading part in the development of the CS rather than feeling that the statement was being imposed on them by others; it also enabled the CS to be developed rigorously and systematically. In addition the CS will be a useful resource for university course providers so that consistent guidance and support can be given to the clinical support team. Finally, through undertaking the development of the CS, it is identified that further research of the newly emerging role, scope and function of the NNP is warranted.

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[insert Table 5 here]

The authors wish to also thank Lee Hayes of Amgen Australia who helped to convene the round 1 meeting and provided lunch for the round 3 meeting. The round 1 meeting was held during the joint Amgen Australia – Baxter Healthcare *Improving Outcomes in Nephrology* Meeting (September 2009).

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Table 1: Important areas for NNP clinical education

ITEMS	Importance Mean Score	
Generating differential diagnoses	9.57	Extremely important
Systematic holistic assessment	9.43	
Problem-solving in chronic disease	9.43	
Advanced clinical skills	9.36	
Fluid assessment	9.23	
Extended nephrology nursing practice	9.21	
Anaemia management	9.15	
Pharmacology decision-making	9.14	
MBD management	9.08	
Decision-making for diagnostic interventions	8.93	Highly important
Meeting time with mentors	8.86	
Access management	8.85	
Access to a variety of learning opportunities	8.79	
Nephrologist as mentor	8.64	
Case review by mentors	8.57	
Previous formal qualification in nephrology nursing	8.50	
Ability to effectively articulate management plan	8.50	
Articulate clinical reasoning of management plan	8.36	
Oral case presentation	8.36	
Supernumerary time	8.36	
Research utilisation	8.36	
Nephrology Nurse Practitioner as mentor	8.29	
Managing a case load	8.29	
NP Clinical portfolio	8.23	
Referral processes	8.14	

Critical thinking	8.14	
Leadership skills	8.14	
Demonstrating clinical ability for a broad case mix	8.00	
Multi-disciplinary mentor team	7.93	Quite important
'Thinking out aloud'	7.93	
Interaction with other trainee NP	7.57	
Risk analysis	6.77	Somewhat important
Treatment options	6.14	
Cultural safety	5.79	Moderately important

Table 2: How frequently does a Nephrology Nurse Practitioner use skills / knowledge / activity listed?

Knowledge / skills / activity	Frequency Mean Score	How often
Critical thinking	4.00	Daily
Systematic holistic assessment	3.77	
Fluid assessment	3.77	3.5-4.0
Decision-making for diagnostic interventions	3.69	
Advanced clinical skills	3.69	
Pharmacology decision-making	3.69	
CKD Mineral & Bone Disease management	3.62	
Extended nephrology nursing practice	3.58	
Generating differential diagnoses	3.54	
Problem-solving in chronic disease	3.54	
Anaemia management	3.54	
Cultural safety	3.46	Weekly
Articulate clinical reasoning of management plan	3.23	
Leadership skills	3.23	2.5-3.49
Access management	3.23	
Thinking out aloud	3.15	
Access to a variety of learning opportunities	3.15	
Managing a case load	3.15	
Ability to effectively articulate management plan	3.00	
Supernumerary time	3.00	
Nephrologist as mentor	2.92	
Risk analysis	2.85	
Demonstrating clinical ability for a broad case mix	2.85	
Treatment options	2.79	

Meeting time with mentors	2.79	
Oral case presentation	2.77	
Referral processes	2.69	
Research utilisation	2.69	
Case review by mentors	2.62	
Multi-disciplinary mentor team	2.46	Monthly
NP Clinical portfolio	2.38	
Interaction with other trainee NP	2.31	<2.49
Nephrology Nurse Practitioner as mentor	2.18	

Table 3 Who should be part of the NNP candidate's Clinical Support Team

Clinical Support Team	**Number of times mentioned**
Nephrologist	16
NP (preferable nephrology)	16
Pharmacist	10
Renal advanced physician trainees/registrar	5
Other medical specialist (e.g. cardiologist)	4
Vascular surgeon	2
Senior nurse (direct supervisor)/line manager	2
Nurse academics	2
Other Chronic Disease NP	1
Chronic Disease Educator (eg Renal, diabetes)	1
Anaemia coordinator	1
Other nursing mentor	1
GP	1
Radiologists	1
Renal Collaborative networks/RSA	1
Pathologists	1
Haematologists	1

Table 4 Learning outcomes of clinical education for the NNP Candidate

In relation to patients with CKD, the NNP will be able to assess, manage and evaluate using advanced clinical assessment skills and an extended scope of practice:	**Agree / Strongly Agree**
• Preserve kidney function (e.g. delaying progression, maintaining residual renal function)	100%
• Blood pressure and fluid volume	100%
• Diabetes and/or cardiovascular disease	96.8%
• Anaemia and haematinics	100%
• CKD mineral and bone disease	100%
• Nutrition and metabolism	100%
• Dialysis (e.g. adequacy/prescription evaluation, access, complications)	96.8%
• Transplant work-up	93.5%
• Pharmacologic, non-pharmacologic and poly-pharmacy in CKD	100%
• Chronic Disease Self Management	100%
• Health promotion in chronic disease	96.8%
• Symptom management (e.g. integumentary, sleep, fatigue, pain, pruritus, etc)	100%

• Psychosocial care, quality of life	100%
• Rehabilitation	96.8%
• Conservative, palliative, end of life care	96.8%

Table 5 Nephrology Nurse Practitioner Expert Panel

Name	Institutional Affiliation & State
Robyn Bailey	Platinum Health, QLD
Anne Blong	The Townsville Hospital, QLD
Lois Berlund	Cairns Base Hospital, QLD
Leanne Brown	Hervey Bay Hospital, QLD
Julie Chimyong	Peninsula Health, VIC
Sonya Coleman	Royal Brisbane & Women's Hospital, QLD
Bettina Douglas	Princess Alexandra Hospital, QLD
Katrina Duff	Rockhampton Hospital, QLD
Jill Farquhar	The Children's Hospital, Westmead, NSW
Lisa Gordon	Princess Alexandra Hospital, QLD
Frank Grainer	Cairns Base Hospital, QLD
Michele Harvey	Robina Hospital, QLD
Barbara Harvie	Canberra Hospital, ACT
Jody Holmes	Rosebud Hospital, VIC
Kerry Linton	Southern Health, VIC
Anna Lee	Statewide Renal Services [Royal Prince Alfred Hospital], NSW
Anthony Lucas	Cairns Base Hospital, QLD
David McIntyre	Royal Brisbane & Women's Hospital, QLD
Paula McLeister	Gold Coast Health Service District, QLD
Karen Mills	Redland Hospital, QLD

Veronica Oliver	Princess Alexandra Hospital, QLD
Lesley Salem	Hunter New England Health, NSW
Monique Sandford	Royal Perth Hospital, WA
Lisa Shelverton	Royal Hobart Hospital, TAS
Rosemary Simmonds	Geelong Hospital, VIC
Melissa Stanley	St Vincent's Hospital, VIC
Elizabeth Stevenson	Bendigo Health, VIC
Cassandra Stone	Logan-Beaudesert Hospitals, QLD
Melinda Tomlins	Liverpool Hospital, NSW
Wendy Washington	The Townsville Hospital, QLD
Jane York	Royal Perth Hospital, WA

Box 1 Qualitative Comments

"One grows into the NP role and, like a plant; the growth is sounder if it is done gradually with regular inputs of water and nutrient. You can't force genuine learning into a few weeks as the end of semester looms."
"The most difficult part of the candidacy has been finding enough time to support the advanced learning. This would be near impossible without dedicated time for role development, especially during semester."
"I am keen to promote a generic Nephrology NP and recognise that some will be more at home in dialysis or CKD."
"I think the present un-standardised aspect of the number of clinical cases, by both the Unis and individuals, has been poor. We have to ensure that everyone that is being endorsed has an equal standard of clinical learning and not just the whim of the Nephrologist ... This requirement needs to be mandatory and each Uni must ensure that this is done."

Appendix 1

Consensus Statement: Clinical Education to Prepare Australian Nephrology Nurse Practitioners

June 2010

The consensus statement is not intended to be prescriptive. It is intended to provide general guidelines for Nephrology Nurse Practitioner candidates[1], university course providers and mentors about the expectations for extended nephrology specific clinical education. It was developed using the Delphi technique involving all Australian Nephrology Nurse Practitioners and candidates in 2009/10.

Context of Nephrology Nurse Practitioner Practice

Nephrology Nurse Practitioners (NNP) support people with chronic kidney disease (CKD) and acute kidney injury using complex technology and coaching. NNP provide advanced and extended health care to people of all age groups who receive health care in primary, secondary and tertiary settings including hospitals, in-centre dialysis units, satellite dialysis units, transplant units, community health and out-reach services. These services are located in metropolitan, regional, rural and remote locations across Australia.

Regardless of the context or location of health care delivery and the specific requirements of individual university courses, the clinical education component of a Masters course is to prepare a registered nurse to a level of a Nephrology Nurse Practitioner who can:

[1] The term “candidate” is used in this document to denote any student / trainee Nurse Practitioner

- Demonstrate achievement of the Australian Nursing and Midwifery Council's (ANMC) Nurse Practitioner Competency Standards (2006);
- Practise clinical nursing autonomously and take responsibility for advanced clinical decision-making;
- Assess, manage and evaluate nursing health care using advanced nursing clinical assessment and extended scope of practice (i.e. diagnostics, prescribing & referral);
- Collaborate with the multidisciplinary team to develop and implement a healthcare management plan for people with CKD Stages 1-5;
- Use contemporary evidence based research;
- Integrate CKD care and enhance the smooth transition of care across the health continuum (e.g. primary health care, acute care, community care, palliative care) with support from the hospital treating team;
- Provide an interface between tertiary specialist services and primary health care providers;
- Promote patient concordance with individualised health care plans through patient education, coaching and support;
- Reduce recurrent and unplanned admission to hospital and reduce the burden on the public hospital health system;
- Evaluate the effectiveness of the role and patient and organisational outcomes.

The consensus of the group is that during a Master of Nurse Practitioner course the following **essential** and **preferable** requirements are necessary to achieve the clinical education outcomes of Nephrology Nurse Practitioner candidates.

Essential Requirements for Clinical Education

1. Clinical Support Team (also referred to as a Mentorship Team)

1.1 The Clinical Support Team are senior clinicians who act as mentors by providing formal, recognised and regular supervision, assessment and support to the NNP candidate;

1.2 The Clinical Support Team comprises of a minimum of a:

- Registered medical specialist credentialed in nephrology
- Nurse Practitioner
- Pharmacist
- Academic staff member from the Master of Nursing (Nurse Practitioner) course;

1.3 Mentors must be committed to and have good understanding of the proposed NNP role;

1.4 Mentors are willing to provide direct supervision of the NNP candidate's clinical practice;

1.5 The role of the NP mentor is to maintain the integrity of nursing in the education and scope for the NNP candidate;

1.6 Mentors will schedule a minimum of 2 hours per week to the direct supervision of the NNP candidate's clinical practice;

1.7 The team establishes a regular weekly time to discuss clinical education matters;

1.8 The team facilitates access to learning opportunities;

1.9 The team is regularly supported by an academic staff member;

1.10 Regular and ongoing exposure to clinical episodes of care with increasing variety and complexity of clinical assessment and decision making is of greatest benefit for acquiring competence and confidence in the NNP role.

2. Learning Strategies to support the NNP candidate

2.1 Structured and supported clinical learning opportunities occur with mentors on a regular and ongoing basis;

2.2 Supernumerary time is provided by the employing organisation to enable clinical learning to occur with mentor/s (e.g. observing/participating in consultations, outpatient clinics and ward rounds);

2.3 The clinical education time commences early in the NNP course and increases in duration towards the end of the clinical period;

2.4 The clinical education will enable consolidation of the NNP role, knowledge and skill development as a NNP;

2.5 Case studies are used by mentor/s to facilitate acquisition of NNP role, knowledge and skill development;

2.6 Regular interaction with mentor/s occurs via direct and indirect (phone/email/ telehealth) contact to assist learning.

3. Outcomes of Clinical Education for the NNP candidate

3.1 Comprehensive knowledge of:

- Renal physiology and its relationship to other physiology
- Pathophysiology of CKD and related chronic conditions

3.2 In relation to patients with CKD, the NNP will be able to assess, manage and evaluate using advanced clinical assessment skills and an extended scope of practice:

- Preserve kidney function (e.g. delaying progression, maintaining residual renal function);
- Blood pressure and fluid volume;
- Diabetes and/or cardiovascular disease;
- Anaemia and haematinics;
- Mineral and bone disease of CKD;
- Nutrition and metabolism;
- Dialysis (e.g. adequacy/prescription evaluation, access, complications);
- Therapeutics of above using pharmacologic and non-pharmacologic agents and methods;
- Kidney transplant list work-up;
- Chronic disease self-management;
- Health promotion in chronic disease;
- Symptom management (e.g. integumentary, sleep, fatigue, pain, pruritus);
- Psychosocial care, quality of life considerations;
- Rehabilitation;
- Conservative, palliative, end of life care.

Preferable requirements for clinical education:

1. Clinical Support Team

1.1 The nursing mentor is a nephrology Nurse Practitioner;

2. Learning Strategies

2.1 The NNP candidate will negotiate with their mentors the amount and frequency of direct supervision;

2.2 Where resources permit, additional direct supervision is highly recommended;

2.3 Regular time is allocated by a mentor for indirect supervision of the NNP candidate;

2.4 Individual NNP candidates may require additional direct supervision;

2.5 As the NNP candidate's advanced practice develops the method of supervision may become increasingly indirect;

2.6 Where the NNP candidate has limited access to a range of clinical situations, it is recommended that secondment to a renal service and/or other relevant area that offers exposure to a more diverse range of learning opportunities is undertaken.